

ABSTRACT OF THE DISCLOSURE

There is described a control method for controlling the fuel injection pressure of a common rail injection system of an internal combustion engine, the injection system having a high-pressure pump for supplying high-pressure fuel to the common rail, and for performing, at each engine cycle, a first and at least a second fuel delivery synchronously with respective fuel injections to the engine; a regulating device for regulating the fuel pressure in the common rail; and an electronic control unit supplying the regulating device with a control signal to regulate the fuel pressure in the common rail. The control method provides for determining a first value of the duty cycle of the control signal as a function of a required pressure value in the common rail, in turn a function of the power required of the engine, and as a function of an actual pressure value in the common rail; determining a second value of the duty cycle of the control signal as a function of the first value of the duty cycle, and as a function of a total correction coefficient; causing the duty cycle of the control signal to assume the first value during the first fuel delivery; and causing the duty cycle of the control signal to assume the second value during the second fuel delivery.